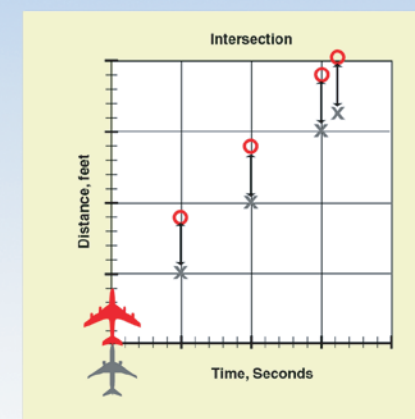
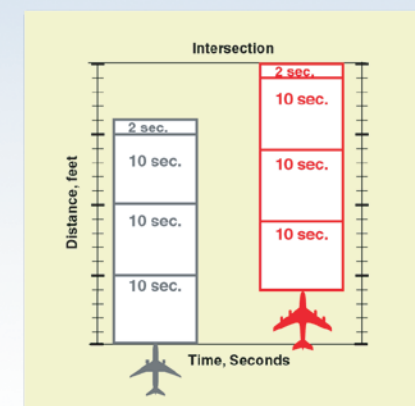


FlyBy Math™

Distance-Rate-Time Problems Grades 5-9



Multiple Mathematical Representations



Student Experiments

Use math and science to solve real-world air traffic control problems involving two planes flying on routes where a conflict may occur.

Smart Skies

Download your **FREE** materials here
http://quest.arc.nasa.gov/projects/smart_skies

Explore, Discover, Understand.

AIRSPACE SYSTEMS

Smart Skies™ FlyBy Math™

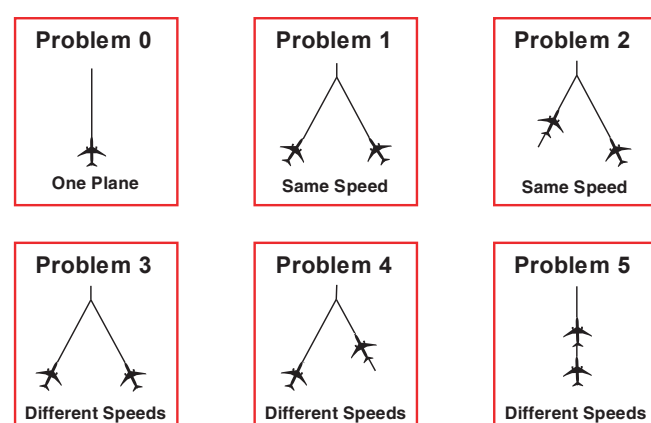
Distance-Rate-Time Problems in Air Traffic Control for Grades 5-9

Real-life Applications from NASA Airspace Systems

NASA Airspace Systems brings interactive real-life mathematics applications to grades 5-9 with Smart Skies™ FlyBy Math™, a series of six Air Traffic Control problems. FlyBy Math™ was developed by NASA's Airspace Systems Program at the NASA Ames Research Center to involve students in real-life applications of mathematics and science. The Airspace Systems program develops advanced computer-based systems to help pilots and air traffic controllers operate the nation's air transportation system with reduced flight delays and improved efficiency and access. Using FlyBy Math™, students learn to predict air traffic conflicts using distance, rate, and time relationships.

Six Distance-Rate-Time Problems

Each problem provides students with opportunities for teamwork and communication as they examine a distance-rate-time scenario an air traffic controller might encounter.



An Experiment Plus Math Activities

In each problem, students engage in active learning as they:

- Assume the roles of pilots, air traffic controllers, and NASA scientists to conduct an experiment that simulates a two-plane scenario.
- Assume the role of a NASA engineer and use guided paper-and-pencil activities to determine the number of seconds it takes each plane to travel a given distance along a jet route.

Teachers can assign a variety of mathematics problem-solving methods including counting, plotting points, using a formula, and graphing a system of linear equations.

Classroom-Tested and Standards-Based

FlyBy Math™ reflects teacher feedback from national classroom tests with 2,000 students. The materials support many National Council of Teachers of Mathematics Standards and Expectations with particular emphasis on Algebra, Geometry, Measurement, and Data Analysis and Probability. The materials also support several National Science Education Standards with a focus on the "Motions and Forces" Physical Science content standard.

Access All Materials Online

Each problem addresses multiple learning styles with:

- a Student Workbook containing the experiment, paper-and-pencil calculations to support the experiment, and a student analysis of the experiment and calculations.
- optional pre- and post-tests
- video clips to introduce students to the nation's air traffic control system.

Each problem is accompanied by a Teacher Guide with a full set of answers and solutions, as well as suggestions for implementing the specific airspace scenario. A detailed overview of FlyBy Math™ is provided in the Educator Guide.

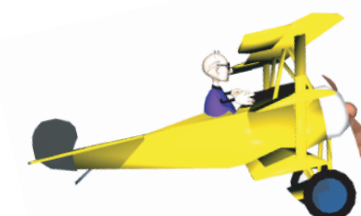
All materials are free and available to download from the FlyBy Math™ website:

http://quest.arc.nasa.gov/projects/smart_skies

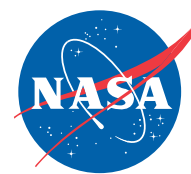
NASA's Education Home Page

NASA's education home page serves as the education portal for information regarding educational programs and services offered by NASA for the American education community. This high-level directory of information provides specific details and points of contact for all of NASA's educational efforts, Field Center offices, and points of presence within each state. Visit this resource at the following address:

<http://education.nasa.gov/home>



What's on YOUR Radar Screen?



EW-2005-03-021-ARC